CHAPTER 2

Ideas about amalgams

Although amalgams have gone relatively unnoticed since Lakoff's paper, a few proposals have been made to account for their idiosyncrasies. As it happens, these proposals are mostly outlined in short studies that do not include detailed derivations, with notable exception of Guimarães' recent dissertation. For this reason, this chapter is a presentation of the analyses that have been put forward in the literature, and not a discussion of 'previous scholarship' as such. The focus is thus on the broader idea that underlies them, and the predictions they give rise to regarding the structural relationship that bears between amalgamated clauses. These predictions are then the starting point for chapter 3.

The analyses that have been proposed in the literature on amalgams are as follows: 1. regard the IC as some kind of relative clause that adjoins to an empty element in the matrix clause (§2.2), as has been proposed for Andrews-amalgams in Tsubomoto and Whitman (2000), Grosu (2006) and Grosu (2008), 2. treat the matrix and the IC as independent roots that syntactically share the content kernel (§2.3), which is the core of Van Riemsdijk's idea of 'grafts' and is implemented in an entirely different way in Guimarães (2004), and 3. derive the IC as a complex XP in which XP stands for the category that is selected for by the matrix (§2.4), as has recently been suggested in Zwart (2006, 2009). Some of these ideas overlap: to an extent, Zwart's proposal in terms of layered derivations bears resemblance to the relative clause approach, as in both approaches, the IC functions as a complex category in the matrix. The most important distinction is then between those two proposals and the multidominance approach: only the latter treats the interrupting clause as an independent clause. I start out by an impression of the original idea proposed in Lakoff (1974).

2.1 How it all started: Lakoff (1974)

Lakoff (1974) observes that Andrews-amalgams involve a *conversational implicature*[1] That is, according to Lakoff, the amalgam in (1) has the same conversational implicatures ('$\rightsquigarrow$') as given here for (2):

(1) John invited [you'll never guess how many people] to his party.

(2) You'll never guess how many people John invited to his party.
$\rightsquigarrow$ John invited a lot of people to his party.
$\rightsquigarrow$ John invited few people to his party.

This implicature is due to the 'exclamative force' that is somehow part of the IC. The presence of exclamative force and the implicature associated with that, create the basis for a transformational rule that allows for the chunk of a sentence (i.e. what I have called IC) to substitute the constituent that is understood as the argument of *invite* in (1). This transformation is thus licensed by pragmatic, rather than syntactic conditions:

(3) **Transformational rule for Andrews-amalgams** (Lakoff 1974:323)

For all contexts C, if:

i. S_1 is an indirect question with S_0 as its complement S; and
ii. S_2 is the ith phrase marker in a derivation D whose logical structure is conversationally entailed by the logical structure of S_1 in context C; and
iii. NP_1 is an NP in S_2, such that S_2 minus NP_1 is identical to S_0; and
iv. S_1 has the force of an exclamation; then
v. relative to context C, S_1 minus S_0 may occur in the place of NP_1 in the i+1th phrase-marker of the derivation D.

Example:

S_1 = You'll never guess how many people
S_0 = John invited to his party
S_2 = John invited a lot of people to his party
NP_1 = a lot of people

Note that in this rule, it is understood that S_1 and S_0 belong together: they form an indirect question in which sluicing has taken place. This in itself relies on a rather unusual assumption, because in S_1 *guess* takes a nominal complement, while it selects for a clausal complement (S_0): the *wh*-phrase in S_1 is normally associated with this complement clause. The application of Lakoff's rule looks as follows:

[1] Lakoff (1974) calls this a conversational 'entailment', but this corresponds to what Grice (1975) calls conversational *implicatures*. Also Levinson (1983:164) discusses conversational implicatures in the context of this type of amalgams. To avoid terminological confusion with logical entailments, I will consistently replace 'entailment' with 'implicature' in discussing Lakoff (1974), with the exception of direct citations.

(4) [$_{S_2}$ John invited ⟨[$_{NP_1}$ a lot of people]⟩ to his party.
[$_{S_1}$ You'll never guess how many people ⟨[$_{S_0}$ John invited to his party]⟩].
[$_{S_2}$ John invited [$_{S_1}$ you'll never guess how many people] to his party].

Lakoff also describes an alternative to this rule, which was suggested to him by Bill Cantrall. The alternative is to derive Andrews-amalgams via an intermediate stap involving a 'sluiced parenthetical':

(5) John invited a surprising number of people – [you'll never guess how many (people)] – to his party.

Instead of substitution, a parenthetical is inserted (i.e. *you'll never guess how many people*) and subsequently the object NP in the matrix clause (*a surprising number of people*) is deleted.[2] The difference between Lakoff's rule and this alternative is essential: instead of replacing a regular NP constituent by a sentence chunk, we are now inserting (probably via adjunction) an independent sentence and deleting something that corresponds to that sentence in the matrix clause.

For Horn-amalgams, Lakoff proposes a similar, pragmatically constrained substitution rule. In this case, the pragmatic condition by which substitution is licensed, is the presence of a 'hedged assertion'. The hedged assertion in his example, repeated for convenience in (6), is related to the embedding verb *think*:

(6) John is going to [I think it's Chicago] on Sunday.

The transformation rule for Horn-amalgams is as follows:

(7) **Transformational rule for Horn-amalgams** (Lakoff 1974:325)

For all contexts C, if:

i. S_1 is a sentence with an embedded cleft-sentence with S_0 as its relative clause; and

ii. S_2 is the ith phrase marker in a derivation D whose logical structure is conversationally entailed by the logical structure of S_1 in context C; and

[2]Notice that although the factor of *surprise* is associated with exclamatives, it is not necessarily associated with Andrews-amalgams. This depends highly on the embedding predicate: (i) can probably not be derived by the parenthetical plus deletion rule applied to (ii):

(i) John invited [you can imagine how many people] to his party.

(ii) #John invited a surprising number of people – you can imagine how many people – to his party.

That is, if the addressee of this utterance (*you*) can imagine the number of people, this is not surprising in that discourse, it is only surprising relative to some conventional scale. This is related to rhetorical aspects of Andrews-amalgams that I discuss in chapter 6.

iii. NP_1 is an NP in S_2, such that S_2 minus NP_1 is identical to S_0 minus its relative pronoun; and
iv. S_1 is a hedged assertion of the content of S_2; then
v. relative to context C, S_1 minus S_0 may occur in the place of NP_1 in the i+1th phrase-marker of the derivation D.

Example:

S_1 = I think it's Chicago
S_0 = that John is going to
S_2 = John is going to Chicago on Saturday
NP_1 = Chicago

Notice that here, S_1 and S_0 together form a complete sentence (a regular embedded *it*-cleft): Lakoff assumes that the IC involves an elliptical *it*-cleft. The application of (7) is then (8):

(8) $[_{S_2}$ John is going to $\langle[_{NP_1}$ Chicago$]\rangle$ on Saturday].
$[_{S_1}$ I think it's Chicago $\langle[_{S_0}$that John is going to on Saturday$]\rangle]$.
$[_{S_2}$ John is going to $[_{S_0}$ I think it's Chicago] on Saturday].

Also for these amalgams, Lakoff describes an alternative analysis suggested by Bill Cantrall that involves the insertion of a parenthetical like clause (here an embedded cleft without its relative clause), and the deletion of corresponding material in the matrix clause:

(9) John is going to Chicago – [I think it's Chicago] – on Saturday.

Again, this yields the backward deletion of matrix material and constitutes a completely different transformation.

The transformational rules for Andrews-amalgams (3) is contrasted with an alternative analysis in terms of 'S-lifting' (or *slifting*, see Ross 1973). In nowadays terminology, slifting would be the fronting of an IP. Ross (1973) proposed this for sentences such as (9):

(10) $[[_{S_2}$ John left$]_i$, $[_{S_1}$ I believe $t_i]]$.

The transformation slifting then accounts for the movement of the complement of *believe* such that it precedes its embedding clause. In minimalist terms, this would apply to the IP, as it is impossible to raise an (in English optional) complementizer along with it. Lakoff suggests that the derivation of an Andrews-amalgam (1) via Ross' slifting rule would roughly looks as follows (I only label the relevant S here, Lakoff himself does not elaborate on the details of such an approach):

(11) a. You'll never guess how many people $[_S$ John invited to his party].
b. $[_S$ John invited to his party] you'll never guess how many people.
c. $[_S$ John invited *you'll never guess how many people*] to his party].

The reason why this approach is not pursued is twofold. First, (11c) already shows that additional movement ('by some miracle', as Lakoff 1974:321 puts it) of *you'll never guess how many people* is required to get it in the position it surfaces in, namely in the position that is associated with the direct object of *invite*. Second, the slifting approach is inconceivable because of the existence of multiple amalgamations:

(12) John invited you'll never guess how many people to you can imagine what kind of party.

In the rules he proposes, NPs can be substituted by chunks of sentences, and there is no limit on the number of NPs in a sentence that undergo this transformation, which is desirable given (12).

The idea that amalgams can be derived via some movement of an IP has, however, been taken up in Guimarães (2002), who derives Andrews-amalgams out of a regular embedded *wh*-question by remnant movement of the IP, which is shown step-by-step in (13) (slightly adapted from Guimarães 2002:67):

(13) a. $[_{\text{IP}}$ John invited 300 people to $[_{\text{DP}}$ what kind of a party]]
b. $[_{\text{CP}}$ $[_{\text{DP}}$ what kind of a party$]_i$ $[_{\text{IP}}$ John invited 300 people to $t_i]]$
c. $[_{\text{CP}}$ $[_{\text{IP}}$ you can imagine $[_{\text{CP}}$ $[_{\text{DP}}$ what kind of a party$]_i$ $[_{\text{IP}}$ John invited 300 people to $t_i]]]]$
d. $[_{\text{CP}}$ $[_{\text{IP}}$ John invited 300 people to t_i $]_j$ $[_{\text{IP}}$ you can imagine $[_{\text{CP}}$ $[_{\text{DP}}$ what kind of a party$]_i$ $t_j]]]$.

This idea was abandoned in Guimarães (2004) for various reasons, amongst which the existence of embedded amalgams and multiple amalgamation (as was observed in Lakoff 1974), and the absence of island effects in Andrews-amalgams. In addition, IP-movement needs to be stipulated in this analysis. The reader is referred to Guimarães (2002, 2004, in particular pp. 120-178) for further discussion of this type of approach.[3]

[3]There are several other reasons why Ross (1973)'s slifting rule is problematic. For the cases that Ross describes with this rule, complementizer deletion is obligatory. In English, such deletion is indeed possible, and thereby convenient for Ross' purposes. However, (10) cannot possibly be derived by fronting the IP/S in languages that do not allow for complementizer deletion, such as Dutch. In addition, Dutch (and German) have different word orders in main and subordinate clauses, which creates a considerable problem for an approach in which the first is derived from the latter.

(i) [Dutch]
a. Ik geloof [*(dat) Bob een meisje gekust heeft].
I believe that Bob a girl kissed has
'I believe (that) Bob kissed a girl.'
b. *Bob een meisje gekust heeft, ik geloof.
Bob a girl kissed has, I believe

Even apart from the mysterious but obligatory deletion of the complementizer, the lifted clause in (ib) is V-final as a result of slifting, but it needs to be V2, as is illustrated in (ii) (*continued on the next page*):

Obviously, any theory must be viewed in the context of the era in which it was proposed. In the late 1960s, there was a 'movement' within Transformational Grammar that was focused on explaining the relation between form and meaning in a straightforward manner: Generative Semantics. In the 1970s, various transformational rules where proposed to capture phenomena that would nowadays not be considered to be syntactic, but rather 'pragmatic'. This was based on the reasoning that something pragmatic is still part of performance, and therefore needs a place within grammar (see Newmeyer 1980 for more discussion). This soon led to all kinds of proposals concerning 'transderivational constraints' that we also see in Lakoff (1974). Pragmatic aspects such as 'having exclamative force', or the presence of entailment relations between the sentences part of an amalgam, are not strictly part of the 'logical' or syntactic structure of the sentence. The problem of allowing for pragmatic factors constraining syntactic operations, is that the theory looses explanatory force. This is quite clear when considering (3) and (7): although the rule seems descriptively correct for certain (not even all) cases of Andrews- and Horn amalgamation, it has no explanatory force at all. That is, there is no reason why an indirect *wh*-question with exclamative force, or a hedged assertions in the form of embedded *it*-clefts should be allowed to occur in the place of regular constituents of a sentence, but not, say, exclamative copular clauses with demonstrative pronominal subjects. Although this is a randomly picked construction, the point should be clear:

(14) *John was dating [that was such a nice girl!] last year.

It will be evident later on, that it is not at all an easy task to develop a proposal that includes amalgams of the type discussed here, but excludes examples like (14). In fact, in chapter 6, I argue that *exclamatory force* is an incorrect characterization of the IC in Andrews-amalgams to begin with. In the light of present-day (minimalist) linguistics, the substitution rules are clearly *ad hoc* and possibly both over- and undergenerate syntactic amalgams. However, the idea that amalgams involve some 'transderivational' operation at least resonates in the multidominance account that has been defended in recent scholarship (§2.3).

(ii) Bob heeft een meisje gekust, {geloof ik/ *ik geloof}.
Bob has a girl kissed, believe I I believe
'Bob kissed a girl, I believe.'

This example additionally shows that the order of the subject and the embedding predicate is reversed in these constructions, this has been called V1 or integrated parentheticals in the literature (cf. Reis 1995b, Steinbach 1999, 2007, De Vries 2006a, Van Maastricht 2011 for discussion of constructions related to the phenomenon covered by the term slifting). These objections can more generally be raised against any analysis of amalgams that assumes the main clause to originate as a subordinate clause. I return to the word order issue below (§2.3.3) in the context of Guimarães (2004)'s multidominance alternative for sluicing.

2.2 The relative clause approach

2.2.1 The IC as an empty-headed relative clause

I formulated the main question of this thesis as 'Lakoff's puzzle': how can we account for the missing matrix constituent and the insertion of clause-like material in its position? One way of dealing with the unexpected appearance of a clause is to assume the IC is some kind of relative clause: where (English) relative clauses normally consist of an external head and a (relative) CP, we can take the IC to be a CP with an empty head. This has the advantage that amalgams can be reduced to a familiar syntactic configuration: no theoretical novelties need to be invoked especially to account for amalgams. However, it is clear that such an analysis is in need of an explanation why the IC structurally bears little resemblance to relative clauses. An explicit account of amalgams on a par with relative clauses is Tsubomoto and Whitman (2000). The suggestions made in Grosu (2006, 2008) for Andrews-amalgams are very different, but match ideas presented in Grosu (2003) for free relatives and will therefore be discussed under the denominator 'relative clause approach' as well.

2.2.2 Tsubomoto and Whitman (2000)

Tsubomoto and Whitman (2000) start out by observing that the adjunction plus deletion approach that is briefly mentioned in Lakoff (1974) for Horn-amalgams, resembles the way internally headed relative clauses (IHRCs) are often derived: the head *Chicago* in the original example is internal to the relative clause that modifies an empty head (cf. Cole 1987).[4] But this is just a superficial parallel: the notional head in Horn-amalgams (in the classic example *Chicago*, see (15) below) can be referring/definite, whereas it is commonly assumed that the heads of IHRCs are indefinite (for discussion and different ways of characterizing the restriction on the heads of IRHCs, see Watanabe 1992, Basilico 1996, Grosu 2002, *inter alia*). More importantly, an analysis in terms of IHRCs would come out of nowhere, seeing that English does not have this type of relative clauses. Tsubomoto and Whitman (2000) instead propose an analysis that is closer to conventional relative clauses, with an empty NP head. Their proposal is based on the standard (adjunction) analysis for relative clauses, in particular the version proposed in Safir (1986). The main puzzle is then how a relation can be established between the empty head in the matrix and the COMP-domain of the relative clause in the following structure (Tsubomoto and Whitman 2000:179, their (8)):

[4]Tsubomoto and Whitman (2000) gives the impression that the adjunction analysis is Lakoff's proposal, but as was clear from the discussion in §2.1, Lakoff does not assume adjunction, but substitution. It should be noted that Lakoff (1974) describes Cantrall's suggestions as very plausible ideas, without making any assumptions about the syntactic derivation that they would imply. Thus, the discussion is based on an interpretation of the rough idea outlined in Lakoff (1974), and not on an explicit analysis proposed by Lakoff himself.

(15) John is going to [[$_{NP}$ e] [$_{CP_1}$ I think [$_{CP_2}$ it is Chicago [$_{CP_3}$ Op (John is going to t_{Op} on Sunday)]]]] on Sunday.

This representation requires some explanation. The desired binding relation in their approach is between the empty NP and CP_1 (in my terms, the IC). Clearly, this CP lacks a suitable candidate for this relation. In a regular relative clause, this would be an operator that has moved to the COMP-domain (or, SpecCP) of the relative CP. However, CP_1 does contain a suitable operator, namely in the (presupposed) relative clause that is presumably elided (CP_3). Thus, the problem of (15) is that this operator is not in a position where it can be bound by the head (this binding relation needs to be local, see Safir 1986). Tsubomoto and Whitman (2000) suggest that something has to have moved such that the head can bind an element in COMP. Evidence for movement is found in data that show degraded Horn-amalgams in islands (Tsubomoto and Whitman 2000:179, their (9)):

(16) a. John is going to [$_{NP}$ e] it's obvious that it's Chicago on Sunday.
b. ?*John is going to [$_{NP}$ e] that it's Chicago is obvious on Sunday.
c. ?*John is going to [$_{NP}$ e] I got angry because it was Chicago on Sunday.
d. ??John is going to [$_{NP}$ e] I believe the claim that it is Chicago on Sunday.

They argue that these degraded data must be the consequence of syntactic movement, and propose that what is moved, is the empty presupposition CP of the embedded cleft sentence. This leads them to propose the following derivation of Horn-amalgams:

(17) John is going to [[$_{NP}$ e]$_i$ [$_{CP_1}$ [$_{CP_3}$ Op$_i$ (John is going to t_{Op_i} on Sunday)] [I think [$_{CP_2}$ it is Chicago t_{CP}]]]].

Now, a binding relation can be established between the empty NP in the matrix, and the operator (the indexation in the example is mine). This then leads to the rather unusual conclusion that an empty element binds a variable that is base generated in an empty presupposition that has moved. Putting this aside, the main problem of this proposal is that the operator that needs to be bound by the empty NP head, is not available for binding at all. After all, what Tsubomoto and Whitman (2000) regard as 'the empty presupposition' of the cleft sentence, is a restrictive relative clause that modifies the clefted constituent *Chicago*. Thus, this operator is already bound before movement to $SpecCP_1$, namely by *Chicago* (my example):

(18) I think [$_{CP}$ it's [$_{NP}$ [$_{NP}$ Chicago$_1$] [$_{CP}$ Op$_1$ John is going to t_1]]].

Tsubomoto and Whitman (2000) argue that unlike Horn-amalgams, Andrews-amalgams do not exhibit island-sensitivity, which is in line with the data I present in the next chapter. It should be noted that the tested island condi-

tions are different from the island facts presented in Guimarães (2004) and the present work, and that the data below were reported to be rather marginal by my informants (*pace* Tsubomoto and Whitman 2000). Consider (19) (Tsubomoto and Whitman 2000:180, their (11), their reported judgements):

(19) a. John invited it is obvious how many people to his party.
b. John invited how many people is obvious to his party.
c. John invited I lost the memo that says how many people to his party.
d. John invited Mary got angry when she heard how many people to his party.

Consequently, Tsubomoto and Whitman (2000) argue that movement in Andrews-amalgams is not syntactic. What moves (presumably at LF, since this is not overt movement in the general case), is then the sluiced CP containing the *wh*-expression:

(20) John invited [[$_{\text{NP}}$ e]$_1$ [$_{\text{CP}}$ [$_{\text{CP}}$ how many people$_1$ [$_{\text{IP}}$]] [$_{\text{CP}}$ you'll never guess t$_1$]]] to his party.

It is then argued that islands effects are not expected here, because the type of movement here is, supposedly, not syntactic. The binding relation is now established between the empty NP head and the *wh*-phrase, assuming that *wh*-expressions in sluiced sentences correspond to indefinite pronouns (variables). In this context, the LF-based approach towards sluicing in Chung et al. (1995) is adopted: the *wh*-phrase is 'recycled' and used as a variable. In this approach, Andrews-amalgams are thus considered to be a type of *in situ* construction: the CP with its sluiced IP remains overtly in its base position (here t$_1$, and obviously, the *wh*-element itself does move from the sluiced IP into SpecCP of that CP). Although it is argued Tsubomoto and Whitman (2000:181) that this LF-movement of the sluiced CP is *optional*, it is not clear how it could be that in this case, the bound variable is only optionally adjacent to the head NP (recall that for Horn-amalgams the movement of the presumed empty presupposition was invoked to guarantee adjacency). Although the details of this account are disputable, the general idea is clear and relatively simple: both types of amalgams can be viewed as relative clauses with an empty (NP) head, albeit that the binding of the relative operator is established in a different manner, which in their view accounts for the difference in island-effects. Finally, it should be noted that reducing amalgams to a conventional (restrictive) relative clauses imposes a categorial restriction on their content kernels. That is, in the absence of further assumptions, regular relative clauses are headed by an NP. This seems to concur with Lakoff's transformational rules, in which it is consequently an NP that is substituted by a partially elided clause (see (3) and (7) above). However, (21) shows that at least Andrews-amalgams are not subject to such a restriction:

(21) John was [you can imagine how [$_{AP}$ tired]] after the party.

In this case the IC occurs in the position of a predicate and the content kernel is an AP. It is not directly clear how (21) should be captured in the analysis of Tsubomoto and Whitman (2000), but it seems we are compelled to assume that in case of amalgams, the empty head can be an AP. The observation that (Andrews-)amalgams allow for various types of content kernels is central to Grosu (2006, 2008) and Van Riemsdijk (1998b, 2006b,c). Although both regard this as a parallel with free relatives (FRs), their respective analyses are fundamentally different, if not in direct opposition.

2.2.3 Grosu (2006, 2008)

Before I give an impression of the ideas laid out in Grosu's work, it should be pointed out that Grosu (2006) is a short squib in which there is no concrete analysis of amalgams, and that Grosu (2008) is merely a critical discussion of the multidominance approaches to Transparent Free Relatives (and Horn-amalgams) as advocated in Van Riemsdijk (1998b, 2006b,c), which will be discussed in §2.3. The claim that amalgams should be analysed as relative clauses is *not* explicitly formulated by Grosu; I classify his proposal as such because it is reminiscent of the analysis of Free Relatives in Grosu (2003). Since these are a special class of relatives, his proposal differs greatly from Tsubomoto and Whitman (2000)'s regular relative clause approach. This is important for the chapters to come: when I talk about the 'relative clause' account of amalgams, this concerns the basic idea underlying Tsubomoto and Whitman (2000)'s work. Since I discuss Free Relatives along with amalgams at various points, Grosu's idea that unifies them is indirectly discussed in that manner.

In his brief exposition about amalgams in Grosu (2006) claims that amalgams are '*complex XPs homocategorial with the boldfaced constituent within them, rather than merely 'bare' IPs'* (Grosu 2006:1). This is discussed in more detail in Grosu (2008). These boldfaced constituents are illustrated in (22), (Grosu 2006's (1)):

(22) John invited [you'll never guess [$_{DP}$ **how many people**]] to [you can imagine [$_{DP}$ **what kind of party**]] at [it should be obvious [$_{DP}$ **which place**]] with [God only knows [$_{DP}$ **what purpose in mind**]], although he was [you can guess {[$_{AP}$ **how tired**]/[$_{PP}$ **under what kind of pressure**]}].

Grosu (2006) refers to these constituents as 'internal heads' (on a par with internal heads in IHRCs), or 'pivots'. To avoid any terminological confusion, I will use the term content kernel as introduced before. Unfortunately, Grosu (2006, 2008) uses fundamentally different criteria than can be inferred from Lakoff (1974) to distinguish Horn- and Andrews-amalgams. The criterion suggested in Grosu (2008) lies in the 'completeness' of the matrix clause: Horn-amalgams involve incomplete matrices and parenthetical inserts, whereas in Andrews-

amalgams, the insert occupies an argument position. This distinction is based on *a priori* assumptions regarding the status of the IC, which I consider undesirable. In what follows, I will stick to the distinctions based on Lakoff (1974).

Grosu (2008:21) claims that Horn-amalgams necessarily express a hedge, consistent with my preliminary observation in the introduction, and the chapters to come. For Grosu (2008) this is reason to assume that Horn-amalgams have no content kernel or pivot, this constituent is only part of some parenthetical insert and the matrix is incomplete.[5] The claim that the IC is in fact a complex, homocategorial XP only applies to the specific cases of Andrews-amalgams that Grosu regards as such. Since Grosu (2008) does not involve a specific proposal regarding the derivation of the parenthetical inserts in Horn-amalgams, the discussion below only applies to Andrews-amalgams.

Like Tsubomoto and Whitman (2000), Grosu (2006) observes a parallel between Andrews-amalgams and IHRCs, i.e. the presence of an internal head. The fact that this internal head is always a *wh*-phrase, is something Andrews-amalgams have in common with (standard) Free Relatives (SFRs) (23), albeit that in the case of Andrews-amalgams, this *wh*-phrase is the remnant of sluicing, which is not the case in SFRs:

(23) Bob will eat $[_{\text{FR}}$ what(ever) you put in front of him].

Grosu's proposal is based on three central claims: 1. the IC undergoes ellipsis, which in Grosu (2008) is claimed to be restricted to *pragmatic* licensing (Hankamer and Sag 1976, Hankamer 1979), 2. the ellipsis is obligatory, and 3. Case matching is strict in Andrews-amalgams. Grosu (2006) argues that the IC in Andrews-amalgams is sluiced, because it also allows for a variant of sluicing that Merchant (2002) calls 'swiping' ('sluiced *wh*-word inversion with prepositions in Northern Germanic'):

(24) a. Bob danced with someone, but I don't know who with.
b. Bob danced God knows who with.

[5] Illustrative of what would be an Andrews-amalgam by our present definitions, but a Horn-amalgam in Grosu's sense, are (i) *versus* (ii):

(i) John works [you will never guess with whom].

(ii) John works with [you will never guess who].

Alexander Grosu (p.c.) reports that his informants find it easier to construe the insert in (i) as a 'parenthetical', than the one in (ii). Presumably, this is related to the position of the insert: as complement of a P that is part of the matrix (i) or including the the PP as a whole (ii). Only in case of the latter, the 'insert' occupies an argument position, and should therefore be regarded as an Andrews-amalgam. However, notice that in this particular case, the main verb of the matrix verb (*work*) allows for a reading without an internal argument. This may alternatively explain the impression that the insert in (i) can be construed more independently than in (ii): the 'parenthetical insert' then has an effect similar to so-called 'sprouting', a particular form of sluicing I readdress in chapter 4.

However, sluicing (as well as many other instances of ellipsis) must be syntactically controlled, and can't be pragmatically controlled, considering the contrast between (25) and (26) (Hankamer and Sag 1976's (42) and (43)):

(25) Hankamer: Someone's just been shot.
Sag: Yeah, I wonder who.

(26) *Context*: Hankamer produces a gun, points it offstage and fires, whereupon a scream is heard.
Sag: #Jesus, I wonder who.

However, that sluicing can only be syntactically controlled, is only clear in declarative cases. Hankamer (1978:70) points out that there are instances of ellipsis that allow for pragmatic control, but these are limited to '*illocutionary charged utterances*'. Grosu (2006, 2008) illustrates this by the possibility of exclaiming (27) in the context of finding a murdered relative (for instance):

(27) My God, who!?

Notice that in this case, that *who* has several potential referents that are contextually possible: the murderer (i.e. *who* ⟨*did this*⟩!?), the victim (i.e. *who* ⟨*is it*⟩!?), or someone in general (i.e. *who* ⟨*would have ever thought this could happen*⟩!?). An example that Grosu considers to be pragmatically controlled sluicing in an Andrews-amalgam is then (28):

(28) a. *[You know who ⟨wants to kill me⟩] wants to kill me.
b. [You know who ⟨I have in mind⟩] wants to kill me.

It is obvious that whatever is reduced in cannot be syntactically controlled (28a), but is rather interpreted as having some antecedent in the discourse of the utterance (28b). The claim that amalgams involve sluicing is one of the cornerstones of the analysis presented in this thesis. However, contrary to Grosu (2008), I will claim that the ellipsis in amalgams is strictly syntactically controlled (see chapter 4). More concretely, the type illustrated in (28b) is a special construction type, which displays fundamentally different properties than Lakoff's original cases. For instance, I show that the IC in neither type of amalgam can be clause-initial, contrary to the case here (see §3.2). Based on various other structural and interpretive differences, I argue *you-know-who* cases to be grammaticized variants of Andrews-amalgams in §6.3.3 (and in Kluck 2010), comparable to phrases such as *what-the-hell*.

Interestingly, Grosu (2008) observes that the *wh*-phrase must be string-final within the insert. The obligatoriness of ellipsis in the IC is argued to be the consequence of this fact. The suggested evidence for this claim is that the non-reduced version of an amalgam such as (29), '*greatly favors a Horn Amalgam construal*' (Grosu 2008:26):

(29) a. Bob has obtained [I'll never reveal what ⟨to any of you⟩] from

Mary.
b. Bob has obtained [I'll never reveal what to any of you] from Mary.

Supposedly, when the elided material is realized overtly, the sentence has a reading in which the content kernel is not part of the matrix at all, and the insert is some independent string (Grosu's interpretation of a Horn-amalgam). It should be noted, however, that regarding those cases as Horn-amalgams does not explain the obligatoriness of reduction in the Andrews cases, as Horn-amalgams arguably undergo obligatory ellipsis as well, namely of the relative clause that is normally associated with *it*-cleft constructions (I discuss this in great detail chapter 4):

(30) Bea is going to [$_{\text{IC}}$ I think it's Amsterdam ⟨*[$_{\text{CP}}$ that Bea is going to]⟩.

In other words, reducing the obligatory status of ellipsis in Andrews-amalgams to some need of the *wh*-phrase to be insert-final, seems reverse reasoning: the *wh*-phrase is insert-final because of the deletion process that applies to the IP (sluicing). It is doesn't follow from anything why an amalgam that looks like a clear Andrew's case in the sense of Lakoff (1974) should all of a sudden be regarded as a Horn-amalgam if the *wh*-phrase is incidentally not insert-final. Why phonological reduction of the IP is obligatory in Andrews-amalgams, but not in sluicing in general, thus remains an open question in this proposal.

So, what is exactly meant by 'complex homocategorial XPs'? The basic idea is that the *wh*-phrase is derived internally to the insert. The insert as a whole is assigned a null external head, which matches the syntactic and semantic content of the content kernel (cf. Grosu 2008:25). Abstracting away from how matching should be derived, the idea in itself clearly goes beyond the proposal in Tsubomoto and Whitman (2000): if the external head matches the pivot, an Andrews amalgam with an adjectival content kernel presumably has an empty AP head, accounting for both (31a) and (31b):

(31) a. John invited [you'll never guess [$_{\text{DP}}$ how many people]] to his party.
b. John was [you can imagine [$_{\text{AP}}$ how tired]] after the party.

As such, Grosu's proposal is reminiscent of how Transparent Free Relatives (TFRs, a special class of FRs) are analysed in Grosu (2003). Interestingly, the parallel between amalgams and (T)FRs is also drawn in Van Riemsdijk (2006b,c), which I discuss in §2.3. TFRs are considered to be multicategorial XPs in Grosu (2003), based on examples such as (32):

(32) a. He made [what may appear to be [$_{\text{DP}}$ a radically new proposal]] (but is in fact a notational variant of earlier analyses).
b. He made an uninspired and [what I'd describe as [$_{\text{AP}}$ catastrophic]] decision.

Also these are regarded as involving null external heads, which have the same category as the 'transparent nucleus' in the TFR (the predicate of the small

clause, which I also regard a 'content kernel'). Grosu (2003) proposes the following structure for TFRs:

(33) a. He made [$_{DP}$ *e*] [$_{CP}$ what$_i$ [$_{IP}$ [$_{SC}$ t$_i$ may appear to be [$_{DP}$ a radically new proposal]]]].
b. He made an uninspired and [$_{AP}$ *e*] [$_{CP}$ what$_i$ [$_{IP}$ I'd describe [$_{SC}$ t$_i$ as [$_{AP}$ catastrophic]]]]] decision.

So, TFRs are complex XPs that have the same category as their pivots (content kernels). Extending this to Andrews-amalgams, an analysis of those would roughly be the same:

(34) John invited [$_{DP}$ *e*] [$_{CP}$ you 'll never guess [$_{DP}$ how many people]] to his party, although he was [$_{AP}$ *e*] [$_{CP}$ you can guess [$_{AP}$ how tired]].

It should be noted that although it is indeed possible to derive cases with content kernels that cannot usually be used as heads in relative clauses, this fact in itself remains unexplained, as it is not clear why *overt* heads of (restrictive) relative clauses cannot be APs (or any category other than NP).

Finally, Grosu (2003) argues that the content kernel of TFRs is not subject to case matching (*pace* van Riemsdijk 2000a, 2006a), by contrast the *wh*-phrase *what is*. This contrasts with the strict case matching on the content kernel in Andrews-amalgams that he observes for Romanian. The relevant example is (35), which in addition represents the analysis as outlined in Grosu (2008):

(35) [Romanian]
Ion a reuşit datorită [$_{DP}$ e_{DAT}] [ştii tu [$_{DP}$
Ion has succeeded thanks.to know.2SG you.SG
cui]] la examenul de ieri.
who.DAT at exam-the of yesterday
'Ion succeeded thanks to you know who at yesterday's examination.'

Under Grosu's assumptions, *datorită* assigns dative case to the null head, and the relevant matching effect is derived by some agreement mechanism between the null head and the *wh*-phrase in the IC. The need for a special mechanism to derive strict case matching in Andrews-amalgams is a direct consequence of Grosu's claim that ellipsis in Andrews-amalgams is pragmatically, and not syntactically constrained, as regular sluicing exhibits similarly strict case matching effects (see Ross 1969, Merchant 2001). I readdress this issue extensively in chapter 4.

The idea that amalgams are a subspecies of relative clauses has thus taken very different shapes in the literature. However, in both types of analysis, the IC is taken to be a *subordinate* clause and as such, the IC is embedded in, and c-commanded by the matrix clause. Consequently, it is expected that ICs pattern with relative clauses with respect to binding effects and other licensing environments that require c-command. For example, it is expected that quan-

tifiers can bind pronouns in the IC. In addition, we expect that the IC does *not* display any root phenomena, such as independent force or V2 in those languages that exhibit V2 in main but not in subordinate clauses. In the chapter to come, I will show that the relative clause approach fails on all accounts, as the evidence that the IC is a root clause is abundant.

2.3 The multidominance approach

2.3.1 Multidominance in minimalist theory

To avoid an empty position in the matrix, and establish a relation between the content kernel and the 'missing' matrix clause constituent, it is conceivable that the content kernel syntactically occupies two positions simultaneously. That is, we could think of a configuration in which the IC and the matrix clause *share* this constituent: the content kernel could be merged in the IC and remerged in the matrix (or vice versa). As a result, the content kernel is part of both clauses. Let me first sketch the basic idea in the following bracketed structures:

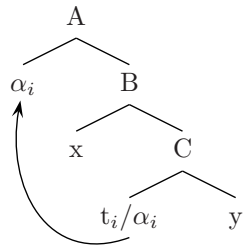
(36) [$_{\text{MC}}$ Bob found ↘
[$_{\text{DP}}$ **a Stradivarius**]].
[$_{\text{IC}}$ I think it was ↗

(37) [$_{\text{MC}}$ Bill kissed ↘
[$_{\text{DP}}$ **how many women**]].
[$_{\text{IC}}$ you will never guess ↗

Now, the content kernel *a Stradivarius* is the object of *found* in the matrix clause, but it is also the predicate of the copular verb *was* in the IC. In such an approach, it is thus part of two otherwise unrelated, parallel strings. How this would work in Andrews-amalgams is more complicated. After all, the assumption that *wh*-phrase, here the DP *how many women*, is the complement of both *kissed* and *guess* leads to a bit of a riddle, as the matrix clause does not involve anything that selects for a *wh*-phrase (such as a Q-feature), and the verb *guess* normally selects for a CP complement. The literature on (sentence) amalgamation includes two proposals of this kind: Van Riemsdijk (1998b, 2006b,c) for Horn-amalgams, TFRs and other constructions that Van Riemsdijk claims involve structure sharing, and Guimarães (2004) for Andrews-amalgams in particular.

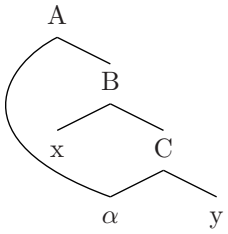
Before I discuss these specific proposals, let me briefly explain the basic rationale that underlies the idea of structure sharing. In current Minimalist theory, it has been proposed to reduce the operation Move to Merge. In more conventional views on movement, some α is either literally moved from its original position to another position, or a copy of α is inserted at the desired new position:

(38)



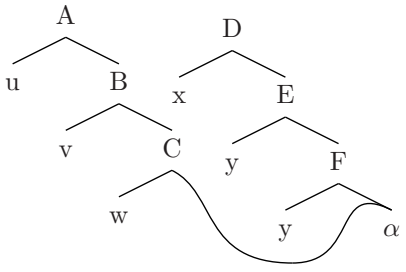
It has been argued in Chomsky (2001), Starke (2001), Gärtner (2002a) and Zhang (2004) that displacement can be viewed as a possible consequence of Merge, namely when the objects that are the input of Merge, are such that one is part of the other. This is illustrated in (39), where α is part of B (its root) with which it merges:

(39)



Chomsky (2001:8) calls this internal Merge (i.e. α is internal to the term with which it is merged), in contrast with external Merge, where the input objects are unrelated. I will use the term internal *re*merge instead consistent with Zhang (2004) and De Vries (2009a), to contrast it with another possible application of Merge, namely when the input consists of an object that is internal to the root, and an object that is external to that root:

(40)



In the resulting configuration, α is part of two roots (here A and D), and the output is, consequently, a multi-rooted representation. That is, in the absence of further assumptions or restrictions on the application of external remerge, it violates the Single Root Condition. Notice that in addition, both internal and external remerge violate the Single Motherhood Condition, i.e. a remerged α necessarily has more than one mother (A and C in (39) and C and F in (40)).

2.3.2 Van Riemsdijk (1998b, 2006b,c)

Van Riemsdijk (2006b,c) argues that if we adopt an unconstrained view on Merge that allows for remerge (i.e. Chomsky's internal Merge), the application of external remerge can only be excluded by stipulation. Since this is undesirable, we expect that cases of external remerge exist in natural language. He calls the resulting structures 'grafts' (pursuing a botanical metaphor): the two roots in (40) are only connected by means of the shared element. Van Riemsdijk (2001) applies this to peculiar data that were first observed in Kajita (1977), that involve bracketing paradoxes, and are (to an extent) reminiscent of the amalgams described in Lakoff (1974). Consider the contrast between (41a) and (41b):

(41) a. This restraurant is far from the station.
b. This matter is far from simple.

In (41a), the head *far* is predicated of *restaurant* and *from the station* is the complement of *far*. The situation in (41b) is different: *simple* seems to be the head, that is modified by *far from* (as a kind of 'adverbial modifier', as was originally proposed in Kajita's reanalysis approach). That is, what is expressed by (41b) is that the matter is simple to a minimal degree (the PP does not have the conventional locational meaning), or better: not simple at all. In that sense, this construction is argued to involve *hedging*, as the speaker modifies the use of *simple*.[6] Van Riemsdijk (2001) argues that the constructions above must have different structures, seeing that only (41b) can be used attributively:

(42) a. *a far from the station restaurant
b. a far from simple matter

This is unexpected, because prenominal adjectives have to be adjacent to the noun they modify. This can only be the case if *simple* is analysed as the head. In addition, the Dutch data below show that it is really the second adjective that functions as the head, as it is this adjective that gets the inflection that is associated with prenominal adjectives:

[6]The presumed effect of 'hedging' is perhaps clearer in cases that are discussed in the introduction of Van Riemsdijk (2001), namely (i)

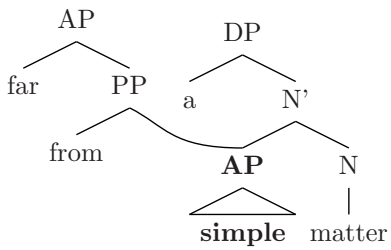
(i) This argument is close to convincing.

Clearly, (i) does not mean that the argument is convincing, it rather means it is *almost* convincing. However, hedging is usually defined in terms of speaker commitment, or a lack thereof (Palmer 1986). Arguably, this does not really capture the meaning of these cases. Recall that Lakoff (1974) claims 'hedged assertions' as part of the licensing conditions on the transformation rule for Horn-amalgams, due to embedding verbs like *think*, which clearly indicate hesitation on the part of the speaker. I readdress this in chapter 6, in the context of speaker-orientation. Constructions such as *far from/close to AP* could alternatively be described as a way rather a way of (intentionally) being *vague* or *imprecise*, not as putting into doubt that AP is the correct predicate to describe whatever it is predicated of (see also Lasersohn 1999).

(43) a. *een ver(re) van het station restaurant
a far from the station restaurant
'a far from the station restaurant'
b. een ver(re) van eenvoudig-e kwestie
a far from simple-SG.CG matter
'a far from simple matter'

Van Riemsdijk solves this bracketing paradox in a proposal in which the adjective (*simple* and the Dutch equivalent *simpel*) is a term of two independent structures: an AP (*far from simple*) and a DP (*a simple matter*). The DP is the 'scion', the AP the 'stock', and the shared term is called the 'callus' in his metaphorical terminology. In terms of merge and remerge, simple is merged in the derivation of the AP, and remerged in the derivation of the DP, yielding the following structure (slightly adapted from Van Riemsdijk 2001):

(44)



Van Riemsdijk (1998b) extends this kind of analysis to other constructions he considers to be 'grafts': Right Node Raising constructions, (Transparent) Free Relatives, both have also been analysed in terms of multidominance/external remerge in Wilder (1998, 1999), and so-called '*wh*-prefixes', that I return to below. The special status of these constructions, like the complex attributive constructions in (42) was already observed by scholars in the '70s and '80s: Nakau (1971), Kajita (1977) and McCawley (1988) discuss complex attributives and TFRs, and the idea that RNR constructions involve multidominance in fact goes back to McCawley (1982, 1987), who calls a similar configuration a discontinuous constituent structure. Although the present work is not primarily concerned with any of these constructions, I will readdress the *far-from* cases below in §2.4 and again in chapter 6 in the context of idioms.

For the present purposes, let me give an outline of Van Riemsdijk's proposal for TFRs, which he sees fit for Horn-amalgams as well, although he doesn't discuss the idea of multidominance in any detail. (45) is an example of a TFR construction:

(45) Bob is [$_{\text{TFR}}$ what I consider to be a handsome guy].

As was already indicated in §2.2.3, TRFs do not seem to have an external head, contrary to (English) restrictive relative clauses. To link the 'felt head' to the matrix (the predicate *a handsome guy* in (45)), Van Riemsdijk (2001) and Van Riemsdijk (2006b,c) suggests it is simultaneously merged in matrix and

TFR. Several people have pointed out that TFRs invariably express a hedge (Van Riemsdijk 2001, 2006b,c), metalinguistic information (McCawley 1988) or involve an intensional operator of some kind Grosu (2003). Unsurprisingly, TFRs were named as such due to their intriguing transparency with respect to the main clause of which they are part. This is illustrated by the following examples, cited from Van Riemsdijk (2006b):[7]

(46) They didn't make what can reasonably be considered headway.

(47) They$_i$ live in what is often referred to as each other$_i$'s backyard.

Apparently, the content kernel is visible to the matrix clause, and c-command based relationships such as the licensing of idiom chunks (46) anaphor binding (47) can be established between matrix and TFR. In addition, it is observed in both Wilder (1998) and Van Riemsdijk (2006b:24) that TFRs can function as 'hedged' APs, comparable to the complex attributive constructions illustrated above:

(48) a [$_{\text{AP}}$ what I described as stupid] decision

(49) a. Deze oplossing is eenvoudig-(*e).
this solution is simple-SG.CG
'This solution is simple.'
b. een wat ik zou noemen eenvoudig-*(e) oplossing
a what I would call simple-SG.CG solution
'a what I'd call simple solution'

(49) illustrates that the content kernel *eenvoudig* gets the inflection that is associated with an adjectival, not predicative position in Dutch, similar to the Dutch variant of *a far from simple matter*. The apparent transparency of TFRs and Horn-amalgams is discussed extensively in the chapter to come, in particular §3.4.

These data are taken to be evidence for an analysis in which the content kernel is simultaneously part of two independent structures, the matrix clause and the TFR. This is illustrated in (51) for (50), slightly adapted from Van Riemsdijk (2006b), his (21):[8]

[7] Van Riemsdijk (2001) contrasts these transparency effects with split idioms and anaphora binding in standard free relatives and restrictive relatives:

(i) a. #Nick lost whatever round objects are called his marbles.
b. #Nick lost the round objects that are called his marbles.

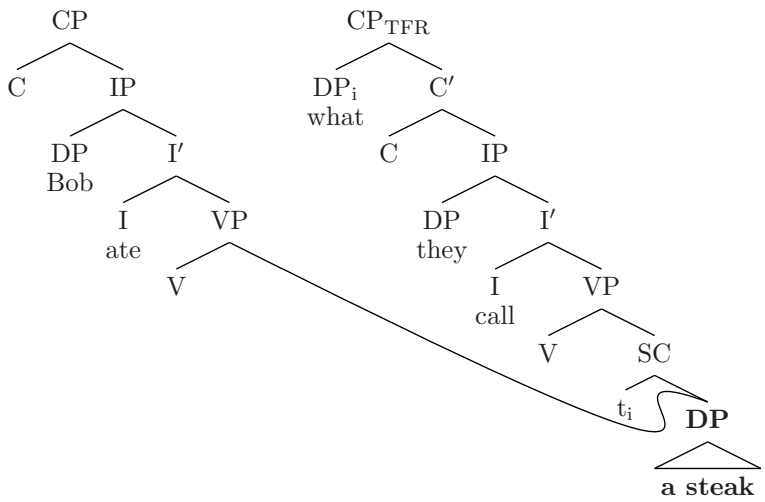
(ii) a. *They live in whatever location you used to refer to as each other's backyard.
b. *They live in the place that you used to refer to as each other's backyard.

Importantly, the only available reading (if any) in (i) is non-idiomatic.

[8] To avoid overly bushy trees, I refrain from representing internal remerge by multidominance. Instead, I represent movement of a constituent by means of a conventional trace. This is *purely* for representational reasons, and does not reflect any theoretical assumption on syntactic displacement.

(50) Bob ate what they call a steak.

(51)



Importantly, the representation of grafts involves multiple roots in Van Riemsdijk's approach: the TFR is not subordinated with respect to the matrix clause, the two are only connected at the locus of the shared constituent. This supposedly accounts for the differences between TFRs and regular relative clauses. I return to the empirical predictions of such an account below.

In Van Riemsdijk (2006b,c), similar transparency effects are observed in Horn-amalgams. That is, the content kernel in Horn-amalgams appears to be available for relations with the matrix. Consider the following examples, slightly adapted from Van Riemsdijk (2006b:35):

(52) They didn't make a lot of, I think the correct term is headway.

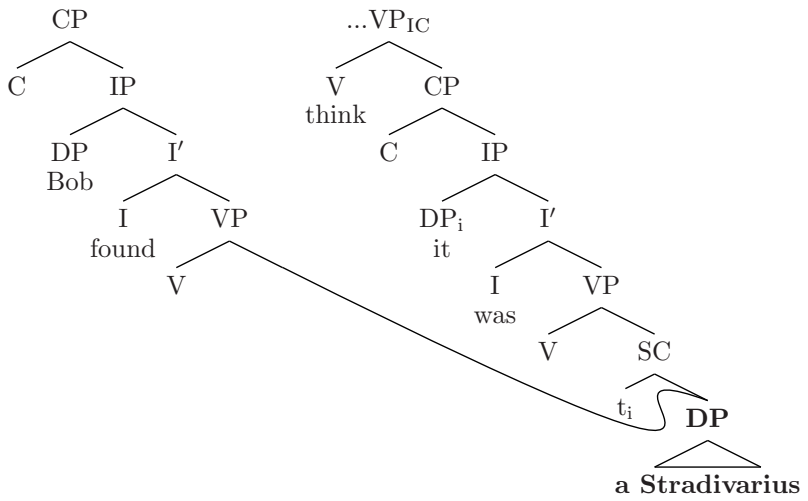
(53) They$_i$ live in I think you could call it each other$_i$'s backyard.

(54) Dit is een, ik denk dat je het zou mogen noemen
this is a I think that you it would may call
eenvoudig-*(e) oplossing.
simple-SG.CG solution
'This is a, I think you might call it simple solution.'

Thus, the content kernel can be an idiom chunk (*headway*) that seems to be licensed by a matrix verb (*make*), or involve an anaphor (*each other*) that has an antecedent in the matrix (*they*). In addition, the acceptability of the Dutch (55) would suggest that the content kernel gets inflection that is associated with an adjectival and not predicative use. Van Riemsdijk takes this as evidence that the content kernel is part of both matrix and IC. In terms of his grafts, this implies a derivation in which the content kernel is remerged, and the matrix and IC are two independent roots, similar to how TFRs are derived:

(55) Bob found I think it was a Stradivarius.

(56)



In this approach, the IC is assumed to be a copular clause (not a cleft clause), and no ellipsis is involved in its derivation.[9] Notice that the content kernel in Horn-amalgams and TFRs is present in two positions, i.e. the graft or multidominance structures in Van Riemsdijk's sense are semantically processed as two independent strings that both contain the content kernel. This approach then predicts that Horn-amalgams are interpreted as follows:

(57) Bob found a Stradivarius [matrix]

I think it's a Stradivarius [IC]

In chapter 6, I argue that this is highly undesirable given the interpretive effect of amalgams that is tightly connected to the intensional context that is inherently present in amalgams (and TFRs).

Also Andrews-amalgams have been approached in terms of constituent sharing. The most explicit proposal is Guimarães (2004), which I turn to below, but both Van Riemsdijk (1998b, 2000b) and Wilder (1998) discuss Andrews-amalgams in relation to multidominance configurations, although Wilder calls them 'sluice parentheticals', and Van Riemsdijk (2000b) analyses them on a par with an idiosyncratic construction type in Swiss he dubs '*wh*-prefixes'. The latter is illustrated by the specific use of the form *wäisch* ('you-know') in

[9] I assume that Van Riemsdijk does not regard the IC as an *it*-cleft, because he makes no reference whatsoever to the internal structure of the IC. Instead, Van Riemsdijk (2006b:34) draws a straightforward parallel between TFRs and Horn-amalgams: '*... the predicate XP is the semantic nucleus and the rest is a hedge by means of which the speaker distances him-/herself from the choice of the term or directly calls it into doubt.*' The representation in (56) is a direct implementation of the proposal outlined in Van Riemsdijk (2006b,c), although the details are not discussed for Horn-amalgams in his work.

Züritüütsch, a dialect spoken in Zürich, and is illustrated in (58), and English constructions of the type in (59):

(58) Wäisch (du) wän chunt de Hans hüt aabig?
know-you you when comes the Hans today evening
'Do you know when Hans is coming tonight?'

(59) He has [God knows how many operas] on CD.

Although the latter example is clearly an Andrews-amalgam, Van Riemsdijk (2000b) does not elaborate on this construction, nor does he relate it to Lakoff (1974)'s paper. Interestingly, the supposedly embedded clause (introduced by the word *wän*) seems to be a form of embedded V2, which is unexpected since German embedded questions generally disallow V2 (see for example Vikner 1995), i.e. embedded questions do not belong to the known exceptions to the ban on V2 in embedded clauses. Van Riemsdijk (2000b) describes some interesting restrictions on the use of this form, such as being restricted to the verb *wüsse*, a 2^{nd} person subject and more. I take these restrictions as a sign that this particular construction is an idiomatic (frozen) form, comparable to the English use of *you-know-who* (see §6.3.3), and argue that these are not exactly the same as Andrews-amalgams. Van Riemsdijk (1998b, 2000b) only suggests an analysis of these *wh*-prefixes in terms of grafts, without elaborating on questions whether such a prefix is to be seen as a sentence or not. It is therefore difficult to see if the intended analysis would be similar to the one for TFRs and Horn-amalgams.[10]

2.3.3 Guimarães (2004)

Relative to the other ideas discussed in this chapter, the discussion of this approach is somewhat elaborate. This is mostly due to the fact that the idea involves a couple of non-mainstream assumptions that would render a brief

[10]On a side note, Wilder (1998) suggests that Andrews-amalgams are a case of backward deletion *or* constituent sharing of the NP in a sluiced parenthetical, i.e. '*sluice parentheticals involve constituent sharing at the right edge of the parenthesis – the noun of the* wh*-phrase is simultaneously the (bare indefinite mass or plural DP) object of the matrix clause*'. He illustrates this taking the deletion approach, but we could easily imagine the elided constituent as being remerged, similar to what was illustrated above for Horn-amalgams:

(i) John invited [you'll never guesss what kind of ⟨people⟩] **people** to his party.

However, Wilder (1998) is merely a suggestion, and it is not clear how this can be applied to cases in which the Andrews-amalgam involves a bare *wh*-phrase, as, presumably, the sluiced IC does not involve an elided NP:

(ii) John invited [you'll never guess who] **?** to his party.

That is, unless we make specific assumptions about the internal structure of bare *wh*-phrases such as *who* and *what*, an issue that is ignored in Wilder (1998), the matrix clause involves an empty constituent, which is exactly what could theoretically be circumvented in a multidominance approach.

summary incomprehensible. It should be additionally noted that Guimarães' work is the only detailed study that is presently available on the topic of sentence amalgamation, and worthy of closer scrunity.

The proposal in Guimarães (2004) makes maximal use of the possibility of remerge/sharing in the derivation of Andrews-amalgams. That is, it is not only the content kernel that is shared (the complete *wh*-phrase in the Andrews-cases), in addition also the sluiced IP (TP) is remerged. Let me start out by giving an impression of the theoretical framework in which amalgams are analysed as multidominance structures. In line with Phillips (2003), Guimarães (2004) adopts a top-down, left-to-right approach to syntactic derivations. For this, he crucially makes use of multiple, overlapping/intersecting numerations. Interestingly, the reason to assume a configuration involving *independent* structures that involve multidominated constituent(s) is not based on 'transparency' effects related to the content kernel (as in van Riemsdijk 2006b,c), but rather on the paratactic nature of the IC. That is, Guimarães (2004) observes that the IC does not pattern with subordinated clauses in many ways. For the present purposes, I discuss an example that applies to English Andrews-amalgams, I return to his other (Romance) data in chapter 3. It is widely known that R-expressions cannot be c-commanded by coreferent expressions (condition C). This rules out a reading of (60) in which *Bill* (in the embedded complement clause) and the matrix pronoun corefer:

(60) $\text{He}_{*i/j}$ didn't remember how many women Bill_i kissed.

However, the IC in Andrews-amalgams seems to be insensitive to condition C effects, as (61) is grammatical:

(61) $\text{He}_{i/j}$ kissed Bill_i didn't remember how many women.

Data like these form the foundation for a derivation of amalgams that involves multiple roots. For this, Guimarães assumes a framework that makes use of multiple numerations. Crucially, these numerations overlap in the case of amalgamation, and the intersection allows the respective (sub)computations to interact, which results in structure sharing comparable to Van Riemsdijk's grafting technique. However, since Guimarães (2004) proposes a top-down and left-to-right derivation, the mechanics involved and the rationale behind them are in fact quite different. The most striking difference is that the multirooted representation in a bottom-up view on Merge is the direct consequence of external remerge, whereas in the system of Guimarães, remerge between independent structures is the consequence of the numerations related to those structures sharing one or more tokens. In addition, the proposed top-down approach involves a 'generalized tucking-in' fashion of structure building, heavily inspired by Richards (2004) and Phillips (2003).

In order to grasp the eventual application of such a mechanism to amalgams, it is useful to have a look at the differences between conventional structure building using Merge in a bottom-up fashion, versus top-down tucking-in.

Suppose we have a numeration as in (62):

(62) {a, b, c, d}

In mainstream Minimalism, Merge applies recursively to root nodes, yielding (63) (I here adopt the bracketing convention from Guimarães 2004):

(63) [Z c d]
[Y b [Z c d]]
[X a [Y b [Z c d]]].

The requirement that Merge only applies to root nodes, also known as the Extension Condition (Chomsky 1993, 1995), guarantees preservation of the derived structure. That is, subsequent applications of Merge do not alter a previously derived constituent, which is visible in the steps in (63). By contrast, a tucking-in building operation applies to non-root nodes, as is illustrated below:

(64) [X a b]
[X a [Y b c]]
[X a [Y b [Z c d]]].

Here, each step creates a new constituent, and destroys what was built in the previous step of the derivation. That is, when merging *c*, it becomes the new sister of *b*, which used to be the sister of *a*. Constituency in such a view is therefore *dynamic*. This view is defended in Phillips (2003), based on data that are problematic in a framework in which constituency is preserved, such as Right Node Raising constructions.

In line with the current developments in Minimalism, as outlined in the beginning of this section, Guimarães (2004) derives movement via remerge. In the top-down framework that he assumes, this requires that α must c-command its target position for remerge. C-command is defined as follows:

(65) **C-command** (Guimarães 2004:270)
α c-commands β if and only if (i), (ii) and (iii) hold:
(i) $\alpha \neq \beta$;
(ii) α does not dominate β;
(iii) every category that dominates α also dominates β.

In this approach, the multirooted structure is what *allows* remerge beyond chains (what Guimarães calls 'remerge without movement'). This contrasts with the bottom-up approach taken in Van Riemsdijk's grafts, in which external remerge *creates* multirooted representations. In the system proposed in Guimarães (2004), multiple roots are the consequence of overlapping numerations (this will be evident later on). Importanly, the top-down structure-building process is assumed to involve an incremental linearization mechanism. That is, the system can satisfy the LCA (the version adopted is close to the familiar Kaynian LCA) by applying spellout whenever necessary, an idea that

goes back to Uriagereka (1999). This is for example illustrated when we derive a complex subject in what will become an IP in a sentence such as (66), where the phonological ('π') particles are put between # (his notation):[11]

(66) The man sleeps.

(67) [XP [X the]]
#the#

(68) [XP [X [DP the [NP man]]]]
#the#$^\frown$#man# Spellout→
[XP [X [DP the [NP man]]]]

This string (that is, its 'π-particles') needs to be spelled out at this point, to avoid a lack of correspondence between precedence and c-command (Guimarães 2004:236). This is argued to be necessary because *the* and *man* do not respectively participate in c-command relations with the inflectional head I (*sleeps*). Because they do precede *sleeps* linearly, intermediate spellout is needed to avoid a violation of the LCA. How this is determined is not made explicit, but it can only be on empirical grounds. In conventional terms, we would think of *the man* as a constituent, but since this approach essentially hinges on the idea that constituency is dynamic, this cannot in itself be a reason for intermediate spellout.

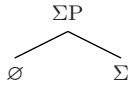
Abstracting away from these considerations, the LCA is vacuously satisfied after intermediate spellout of *the man*, because there is no phonologically active material in the derivational workspace (which I represented as gray), and we proceed as follows:

(69) [XP [X [DP the [NP man]] [I' I sleeps]]]
#sleeps#

Let me now illustrate the derivation of an Andrews-amalgam in Guimarães (2004)'s framework. I will use an example close to the one that illustrates the 'simple case' in Guimarães (2004), chapter V:

(70) Bob will give you can imagine what to Bea.

[11] In fact, the input of Merge in Guimarães (2004) is defined such that it includes a branching host phrase. For this, Guimarães (2004) postulates a starting axiom (ΣP), which he takes to be an 'assertion terminal':

(i)


First Merge in this system then applies to $\{\Sigma, \{\varnothing, \Sigma\}\}$ and x, yielding $\{\Sigma, \{\varnothing, \{\Sigma, x\}\}\}$, and in subsequent steps tucking in other elements of the numeration, *et cetera*. I will leave out this phrase for reasons of space, and because it seems irrelevant for the present purposes. This perspective on top-down derivations is crucially different from the one presented in Zwart (2009), which is discussed in §2.4.

Two overlapping numerations (Δ and Ψ) are assumed for the derivation of this construction (i.e. an amalgam is not a sentence strictly speaking, but the intertwining of two sentences), the items they have in common are here boldfaced:

(71)
{C	← Δ
D, Bill, will, give, wh-, *-at*, to, Bea}	← Δ&Ψ
{C, D, you, can, imagine	← Ψ

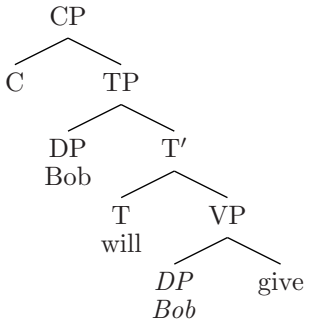
Guimarães (2004) argues that the computational system starts out randomly: either Ψ or Δ is picked to start the derivation. Interestingly, whatever is picked first, should become the 'master' clause, and the other becomes the 'subservient' clause. The latter then inherently expresses secondary content, which is supposed to account for the information-structural asymmetry between matrix and IC in amalgams.[12] If Δ is picked first, we start out by tucking in D and *Bob*, as in (72):

(72)

Importantly, the DP *Bob* is spelled out, for reasons of convergence (see the brief explanation of incremental linearization above). The derivation of the master clause is continued this way until we arrive at the point where the *wh*-phrase, arguably consisting of *wh-* and *-at* in the numeration (corresponding to '*wh*-thing', i.e. 'what') is the next input. The continuation involves the remerge of the DP *Bob* as the sister of *give*. Since *Bob* has already been spelled out, this DP is phonologically empty. We now have (73), where I *italicize* material that is remerged:

[12]Interestingly, Guimarães (2004:277) relates this to the notion 'behindance' as introduced in De Vries (2003). However, in the latter work, behindance is the result of a special kind of Merge that renders the merged objects invisible with respect to their mother node ('*par*-Merge'). I discuss this in relation to amalgams in chapter 7. It should be pointed out that the parallel Guimarães draws, does not include this kind of assumption: he only adopts the idea that information layers can be ordered in a way reminiscent of behindance.

(73)



At this point, this (first) derivational round is terminated, because '*... the wh-phrase will not be able to be later merged in the lower spec/CP of the subservient clause, since it will fail to c-command that [+wh] complementizer.*' (Guimarães 2004:323). That is, the moment the *wh*-phrase would be remerged, it is dominated by projections of *will* and *give*, which are both visible for the calculation of c-command relations in Ψ. So, this would immediately violate the c-command condition on merge formulated by Guimarães (cited in (65) above): neither of those dominates *imagine*, and as a result *what* cannot c-command *imagine* (its target position). Apparently, the system that calculates the c-command relations can miraculously anticipate on such violations: *what* nor *imagine* is part of the derivation at this point. The termination in turn necessitates spellout of the string that is built so far:[13]

(74) [CP [C [DP Bob] [TP will [VP give]]]]
#Bob#$^\frown$#will#$^\frown$#give#

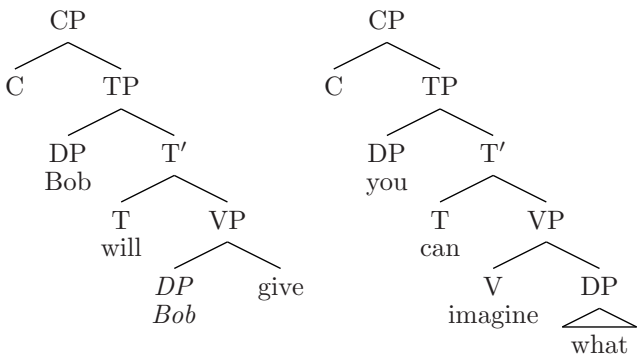
Notice that the decision to terminate the derivation at this point, requires that we can look (far) ahead: that the c-command condition on (re)merge is going to be violated is something we only know when we start deriving the other clause based on numeration Ψ. Crucially, the material left in Δ is also part of Ψ, and this is what allows the system to leave Δ with unfinished business. The subservient clause is now derived in a similar fashion, including the insertion of the *wh*-phrase that was left by the previous round. After *what* is tucked in, we arrive at the following representation:

[13] As a matter of fact, what I represent as a string, is defined as a *super*string in Guimarães (2004), discussed in more detail in Guimarães (1999), i.e. a string containing strings made on the c-command relations amongst overt terminals:

(i) [CP [C [DP Bob] [TP will [VP give]]]]
[#Bob#]$^\frown$[#will#$^\frown$#give#]

For simplicity's sake, I will ignore a further discussion of superstrings. What is relevant for the present purposes, is that parts of the structure are spelled out during the derivation.

(75)



Arguably, the next step, in which the *wh*-DP becomes the complex specifier of the embedded CP (the complement of *imagine*), would again lead to a fatal violation of the LCA. This is so because in this system, the token of that *wh*-DP in the numeration consists of two elements, *wh-* and *-at* (corresponding intuitively to *wh*-thing). Spellout of *wh-at* to form *what* is thus necessary for similar reasons as in the simple case with a complex subject in (66). The system spells out intermediately, and the 'total' output for Phonology is now:

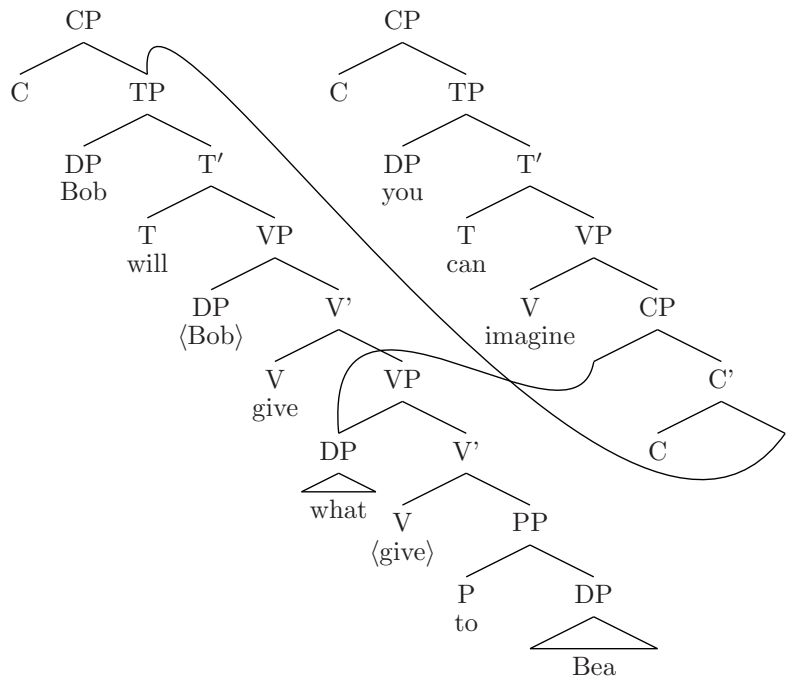
(76) #Bob#∩#will#∩#give#∩#you#∩#can#∩#imagine#∩#what#

We proceed and build the CP, by merging the complex *wh*-DP with C from Ψ. The conceptual beauty of the system is the next step, where the complement of C in the second (subservient) tree is derived. For this, we simply remerge the TP that was derived in the previous derivational round, i.e. the TP that now constitutes *Bob will give*. In other words, instead of assuming that the IC involves sluicing (ellipsis of the TP), Guimarães submits that the relevant TP is shared with the matrix clause. Remerge is possible because TP 'vacuously' c-commands its target, C. That is, the nodes that dominate the TP in the derivation so far, are not visible in this derivational round: they are not projections of tokens of the *current* numeration that we are using (Ψ). More specifically, the c-command condition (65) is met, in spite of the fact that there are nodes (based on my representations only CP, in his system also Σ′ and ΣP) that dominate TP but not the target position of TP (as the sister of C that is made to derive the embedded clause associated with *imagine*).

We can now take up what we left in this TP, and remerge *what* as the sister of *give*, and finish building the VP in the usual fashion. The result is represented below:[14]

[14]The representation here is based on the basic idea presented in Guimarães (2004), but for expository reasons I represent regular movement in the conventional manner, and the representation of incremental spellout is ignored. In addition, M. Guimarães (p.c.) notes that the representations in Guimarães (2004:340, (03x) and onwards) involve a misleading typographic error that caused the multidominance branch that should connect SpecCP in the subservient tree with the *wh*-DP to connect to the VP containing the *wh*-DP in the master clause.

(77)



The output to PF is then the complete string in (78):

(78) #Bob#$^\frown$#will#$^\frown$#give#$^\frown$#you#$^\frown$#can#$^\frown$#imagine#$^\frown$#what#$^\frown$#to#$^\frown$#Bea#

Based on this representation and the short explanation here, it may seem that we are freely shifting back and forth between the derivations of the respective subtrees, but this is not the case: the master clause is finished by tucking in the remaining bits of Ψ, which are also part of Δ. Notice that the multirooted representation is not considered a problem for linearization in this approach, because Spellout has applied during the derivation, i.e. the representation in (77) is not the output for PF as is commonly assumed in mainstream (bottom-up) minimalist approaches. The derivation of a simple Andrews-amalgam involves two instances of structure sharing between matrix and IC: the matrix TP is remerged and subsequently the *wh*-phrase in the IC is remerged when the VP in that TP is finished. This way, we not only avoid an empty position in the matrix, but also the presence of redundant (i.e. to be elided) material internal to the IC.

Guimarães (2004) claims that a couple of properties of Andrews-amalgams follow straightforwardly from this account, in particular their island-insensitivity, that was also observed by Tsubomoto and Whitman (2000) Let us consider one of his examples (Guimarães 2004:72, his (41), bracketing and indices are mine):

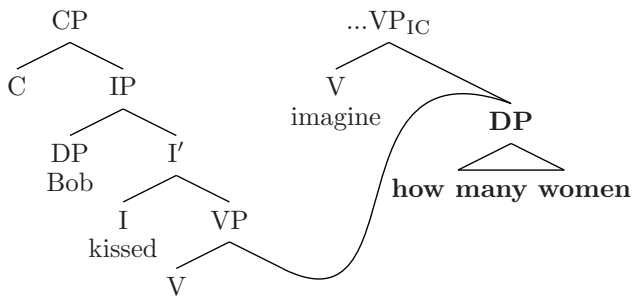
(79) a. John invited a woman he met [$_{\text{IC}}$ you'll never guess where] to his party.
b. John invited [$_{\text{DP}}$ a woman [$_{\text{CP}}$ he met at the church]] to his party.
c. *You'll never guess [$_{\text{DP}}$ where]$_i$ John invited [$_{\text{DP}}$ a woman [$_{\text{CP}}$ he met t$_i$]] to his party.

In Guimarães' proposal, the relevant *wh*-element is remerged when computing the derivation of the subservient clause, and the island is only visible in the matrix clause. The subcomputation only 'sees' the TP (via remerge) that is part of the relative CP, and not that relative CP itself. That is, the relative clause is only an island relative to the master clause, not to the IC. Whether a particular domain functions as an island for a given element to be remerged thus depends on which subcomputation is active at that moment. In other words, it is related to the possibility of using multiple numerations, creating multirooted representations, and *not* to the top-down direction of structure building that is assumed (see Guimarães 2004:361). A careful reader could object here that it is unclear how the invisibility of the CP that explains the island insensitivity can be reconciled with the fact that the TP that it contains is accessible for remerge in that same subcomputation. How this should be defended, is an issue beyond the purposes of this section. For further discussion, the reader is referred to Guimarães (2004), in particular §V.3. The observation that amalgams are insensitive to islands in the manner illustrated in (79) is discussed and explained in chapter 4.

Unfortunately, the reduction of sluicing to TP sharing (which is arguably the most attractive aspects of this proposal) yields wrong predictions regarding the data that were argued to show the paratactic nature of amalgams. That is, if the TP is shared between matrix and IC, we expect Andrews-amalgams to be sensitive for condition C effects. (61) show that this is precisely *not* the case: the IC can contain an R-expression that is coreferent with a matrix clause pronoun. It is not easy to circumvent this problem in a system where structure building interacts directly with linearization. That is, it is hard to imagine how sluicing can be approached in a more conventional manner in this approach. However, abstracting away from top-down derivation, it is easy to imagine a multidominance approach in which only the *wh*-DP is remerged. This would then be a structure similar to (56) discussed above, but additionally involve elided structure in the IC (i.e. the shared *wh*-DP is moved out of a TP in the IC that is subsequently deleted), i.e. resembling what Van Riemsdijk proposes for TFRs and Horn-amalgams:

(80) Bob kissed [you can imagine how many women].

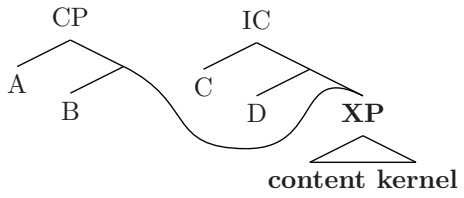
(81)



However, it should be pointed out that contrary to Horn-amalgams, the content kernel is [+wh]. As a consequence, such an approach needs to stipulate a rule to interpret *wh-in-situ* in the matrix clause, as only the CP in the IC selects for a [+wh] complement. To my knowledge, the issue of how the [+wh] content kernel is actually interpreted in the matrix clause is ignored in Guimarães (2004).

Let me close this section by an attempt to generalize over the respective analyses. Both Van Riemsdijk and Guimarães propose an analysis of amalgams in which 1. the content kernel is simultaneously part of the matrix clause and interrupting clause, and 2. the two clauses are not subordinated with respect to each other. Abstracting away from the derivational direction, let me take the following global structure to represent the multidominance approach to amalgamation, where XP is the content kernel:

(82)



In the absence of the specific assumption that the IC also shares the TP with the matrix (in Andrews-amalgams), we expect no c-command based relations to hold between matrix clause and IC, with the exception of the content kernel (here α). More specifically, an NPI in the IC can only be licensed if it is part of the shared structure (i.e. part of the content kernel) assuming the analyses of Van Riemsdijk and Guimarães: material elsewhere does not bear any relationship whatsoever towards the matrix, at least not from a representational point of view. In addition, we expect root clause phenomena to apply to both matrix and IC, since neither of them is assumed to be subordinated to the other. For instance, the IC is expected to display V2 in languages that have V2 in main clauses (such as Dutch and German), contrary to what would be expected if the IC is analysed on a par with relative (subordinate) clauses.

2.4 Amalgams as layered derivations: Zwart (2006, 2009)

The fact that the 'IC' appears in the position where something else than a clause is expected, can also be taken as a sign that the IC is not a clause, but a complexly derived XP, where XP stands for the category that is selected for in the position where the IC appears, such as in (83) and (84):

(83) Bob found [$_{DP}$ I think it was a Stradivarius].

(84) a. Bea kissed [$_{DP}$ you'll never guess how many professors].
b. Bea was [$_{AP}$ you can imagine how angry] at me.

In this type of analysis, *I think it was a Stradivarius* is a complex DP, trivially accounting for its external identity in the matrix clause, and setting aside its internal clause-like make-up. More specifically, the complex XP can be seen as 'reanalysed' as the DP or AP that we understand in (83)-(84). This line of reasoning is pursued in Zwart (2006, 2009), and goes back to insights in Kajita (1977). Zwart argues that the construction types Van Riemsdijk analyses as 'grafts' (see 2.3) should be regarded as 'layered derivations': the XP that I described as the IC in amalgams, is the output of a previous derivation, and used as the input in another derivation, in which it can be reanalysed as another category (here DP and AP).

The basic idea underlying Zwart's proposal is that the operation Merge creates ordered pairs out of an unordered set of elements, and that this need not be restricted to members with the same phrase structure status, in line with the discussion in Ackema and Neeleman (2004). That is, merge can take as its input a complex category such as *sit around and do nothing* (presumably a complex VP), and combine this with the bound morpheme *-ish* in (85), and the result is a complex adjective (this example is originally from Bauer 1983):

(85) [sit around and do nothing]-ish

Crucially, if the numeration contains such an output of a previous derivation, this output (the complex category) is opaque, i.e. an element of this output (that was a member of another numeration) cannot interact with members of the numeration the output is part of. Zwart (2006) calls this the General Integrity Principle (my translation), in Zwart (2009) this is more implicitly related to atomicity of the output:

(86) **General Integrity Principle** (Zwart 2006)
A part of a numeration A of which the output is a part of a numeration B cannot have relations with parts of B.

This accounts for some facts that can be observed in what Zwart (2006, 2009) regards as the prototypical example of a layered derivation, namely *idioms*. Consider for example the idiomatic expression *jack of all trades*:

(87) Bob is a [jack of all trades].

It is widely known that parts of idiomatic expressions such as this cannot be moved:

(88) #All trades, he is a jack of.

This is expected if *jack of all trades* is an atomic expression. The ideas presented in Zwart (2009) involve a top-down derivation. It is argued that the simplest form of Merge is not the conventional operation that combines *two* objects, but 'split Merge' which takes one object out of the numeration, yielding an ordered pair consisting of the element that is split off, say x, and the remainder of the N (N-x), i.e. $\langle x, (\text{N-}x)\rangle$. The adoption of a top-down framework in Zwart (2009) is motivated by simplicity, economy and more general theoretical (Minimalist) considerations that I will not discuss here, and not by amalgamated constructions in particular. Although the outline of Zwart's proposal below includes some examples of top-down derivations, it should be noted that the output of these derivations could also be the result of the application of a more conventional notion of Merge that takes two input objects (from a numeration, if desired).[15] The relevant claim is that amalgams are a prototypical example of 'layered derivations', and involve the merger of an (atomic) output of a previous derivation.

Zwart (2009) describes two general criteria for determining that some element is the output of a previous derivation: configurational and interpretive criteria. The second include interface effects that are relevant for the present purposes, namely *conventionalization of meaning* (i.e. idioms, compounds), categorization (with possible reanalysis that is illustrated below) and *atomization* (which creates opacity). Let us first reconsider Van Riemsdijk's core example, which goes back to Kajita (1977):

(89) een verre van eenvoudig-e kwestie
a far from simple-SG.CG matter
'a far from simple matter'

In this case, the phrase *verre van eenvoudig* is used as a complex adjective and thereby acquiring the inflectional affix *-e* in this Dutch example. Notice also that *verre van* ('far from') does not have a locational meaning, it only describes a degree. In the context of layered derivations and numerations that can involve outputs of previous derivations, a case such as *verre van eenvoudig* is regarded the output of a previous derivation. Adopting Zwart's split Merge for a moment, the derivation of this as in (90):

(90) a. {verre,van,eenvoudig}
b. merge *verre* yields ⟨verre, {van, eenvoudig}⟩

[15] Notice that the conventional notion of Merge does not necessarily rely on the assumption of a numerations. By contrast, Zwart's split Merge crucially involves a numeration, as the remainder of the numeration is a member of the ordered pair that is the result of split Merge. The reader is referred to Zwart (2009, 2011) for insightful and detailed discussion.

c. merge *van* yields ⟨verre, ⟨van, {eenvoudig}⟩⟩
d. merge *eenvoudig* yields ⟨verre, ⟨van, ⟨eenvoudig⟩⟩⟩

As was explained above, each step of split Merge takes one element of the numeration and combines it with the remainder of that numeration. The output of this derivation yields the n-tuple in (91), and can be used as a member of the numeration that is the input for another derivation, as in (92):

(91) ⟨verre, van, eenvoudig⟩

(92) a. {een, [verre van eenvoudig], -e, kwestie}
b. merge een yields ⟨een, {[verre van eenvoudig], -e, kwestie}⟩
c. merge verre van eenvoudig yields ⟨ een, ⟨[verre van eenvoudig], {-e, kwestie}⟩⟩
d. merge -e yields ⟨een, ⟨[verre van eenvoudig], ⟨-e, {kwestie}⟩⟩⟩
e. merge kwestie yields ⟨een, ⟨[verre van eenvoudig], ⟨-e, ⟨ kwestie⟩⟩⟩⟩

(93) ⟨een, [verre van eenvoudig], -e, kwestie⟩

This way, the complex *verre van eenvoudig* is simply an atomic output that is used as an adjective, no sharing or remerge is involved to account for the affixation. Zwart (2006) approaches what look like Horn-amalgams in a similar fashion. I proceed with caution here, because the key example is not exactly a Horn-amalgam, as the examples of Horn-amalgams discussed here and elsewhere in the literature always involve a copular construction of the form *(I think) it is X*. Consider his example:

(94) Hij is naar ik meen Boedapest vertrokken.
he is to I think Budapest left
'He left for I think Budapest.'

It is argued that constructions like the Dutch *ik meen (dat) X* ('I think (that) X') are non-elliptical chunks. That is, *ik meen X* is not a sentence, but a modal modification of X, that Zwart calls 'interpolations'. In these interpolations, the most embedded element is the primary element (the so-called 'percolation-effect' of interpolations). This is based on the observation that saying the answer in (95) basically comes down to saying the answer in (96):

(95) Q: Where is Bob going to?
A: I think Budapest.

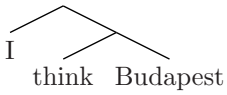
(96) Q: Where is Bob going to?
A: Budapest.

Zwart (2006) extends the discussion to Horn-amalgams (which he refrains from calling that way), and while observing some interesting differences, the analysis is argued to be the same: constructions involving *I think (that (it is)) X* involve the merger of the output of a previous derivation. I will argue in this thesis that Horn-amalgams involve reduced *it*-clefts. Therefore, they are fundamentally

different from integrated *I think* constructions (for discussion of those, the reader is referred to Reis 1995a,b, 1997, 2002, Steinbach 1999, 2007).[16] This previous derivation had as a numeration {I, think, Budapest}, and applying merge (or split Merge), yields the following order, that can be represented in a basic binary tree:

(97) ⟨I, think, Budapest⟩

(98)

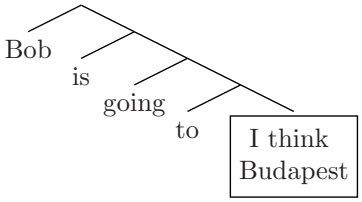


Similarly to the case discussed above, this output can serve as the input for a new derivation, in which it is a (atomic) member of another numeration:

(99) {Bob, is, going, to, [I think Budapest]}

Applying (split) Merge to this numeration yields the structure in (100):

(100)



Notice that in the multidominance proposal in van Riemsdijk (2006b,c) *Budapest* is merged as the complement of both *to* and *think*. Nothing in principle forbids that the constituent kernel be moved in the multidominance approach of Van Riemsdijk, but the result is completely ungrammatical:

(101) *Where is Bob going to [I think (it's) _]?

By contrast, Zwart (2006) straightforwardly precludes any movement out of the complex *I think X* by the integrity principle cited above, which renders all outputs of previous derivations opaque. Importantly, the construction I think X (and its variants) are restricted:

(102) *Hij is naar {ik noem / ik ken / ik hou van} Boedapest vertrokken.
He is to I call I know I love Budapest left
'He left for I call / I know / I love Budapest.'

That is, whatever is added to *Budapest* must have a 'modal effect'. Notice that this relates to Lakoff's observation that Horn-amalgams involve hedging,

[16] Interestingly, the parallel between these constructions and TFRs is also observed in Zwart (2006), but the discussion of the latter is very limited. Unsurprisingly, it is suggested that TFRs are outputs of previous derivations, that are in turn used as nominals in another numeration as well.

discussed in §2.1. Arguably, this does not follow from anything in the grafting approach defended in van Riemsdijk (2006b,c). However, it is also not made explicit how such a restriction would follow from the layered derivation approach either. Zwart (2006) submits that the desired modal meaning of the complex *I think Budapest* comes into being when it is used as a nominal in another numeration, but it is not clear *prima facie* how it can be prevented that outputs such as (102) are generated.

This approach gives rise to a couple of interesting predictions. First, contrary to the other ideas presented in this chapter, this approach does not treat the IC as a clause. Instead, whatever precedes the content kernel can be seen as some modal modification of that element. The IC is then no more than a complex XP (where X is the category of the embedded constituent, comparable to my content kernel). Consequently, the 'IC' does not involve any type of ellipsis. The layered derivation approach yields another prediction regarding the relation between matrix and IC. Crucially, the IC is an atomic part of the numeration from which the matrix is derived. The general integrity principle rules out any interaction between elements in the IC: it is completely opaque for operations of Merge. From this, we expect that nothing can move out of the IC. However, data such as (103) suggest that interfaces must have access to the structure of the layers that are part of its derivation:

(103) The boys$_i$ heard [each other$_i$'s parents] yell.

That is, the binding relation cannot be established between *the boys* and the reciprocal if the relevant interface cannot access the constituent in which it is contained. In other words, the opacity of the IC under these assumptions only holds for operations of Merge (i.e. at the level of syntax) and not for what is assumed to be post-syntactic, presumably agreement and binding.

2.5 Summary

This chapter discussed three basic syntactic approaches to amalgams after a brief discussion of Lakoff's 1974 paper. In the relative clause approach, defended in fundamentally different ways by Tsubomoto and Whitman (2000) and Grosu (2006, 2008), the IC is analysed on a par with relative clauses. In Tsubomoto and Whitman's analysis, the IC is generalized to be a conventional (restrictive) relative clause, whereas Grosu's account shows striking parallels with what he proposes for Free Relatives in Grosu (2003). In both, the presence of an empty external head is assumed, which is related to the content kernel. The main empirical prediction of the idea that the IC is a type of relative clause, is that it is a *subordinate* clause. This not only implies that the matrix c-commands into the IC, but also that the IC cannot have the properties that are exclusively associated with root clauses.

This is in opposition with the multidominance approach to amalgams, as proposed more or less independently by Van Riemsdijk (1998b, 2006b,c) and

Guimarães (2004). The implicit parallel between TFRs and Horn-amalgams that underlies Grosu's proposal is drawn explicitly by Van Riemsdijk. In his account, both TFRs and Horn-amalgams consist of two independent roots which syntactically share the content kernel. Sharing is established via external remerge of this constituent. Under these assumptions, the IC is expected to display root phenomena. In addition, the multidominance approach predicts that the matrix clause does not c-command into the IC, with the exception of the shared constituent. This yields the rather interesting prediction that the content kernel, but no other elements in the IC can entertain c-command based relationships with the matrix.

Finally, Zwart (2006) claims that Horn-amalgams and similar constructions should be regarded as outputs of previous derivations. Under such assumptions, the IC of an amalgam is derived at a previous stage, and is part of the numeration from which the matrix is built. In this approach, the IC is not a clause to begin with. Due to the general integrity of the output of previous derivations, the IC is syntactically opaque. This at least yields that IC material cannot move into the matrix.

This outline of the current literature on sentence amalgamation reflects, alhough not exhaustively, a couple of main themes that will recur in the remainder of this thesis: subordination versus non-subordination of the IC, the IC as a clause or complex modifier, the role of ellipsis in the IC, and the special status of the content kernel.